

In the Claims

What is claimed is:

1. (Original) A plasma torch consumable assembly comprising:
a shield cup;
an electrode integrally connected to the shield cup; and
a tip integrally connected with the shield cup and the electrode to form a one-piece assembly wherein the tip is constructed to secure the one-piece assembly to a torch body.
2. (Original) The assembly of claim 1 further comprising a swirl ring having a first side integrally connected to the electrode and a second side integrally connected to the tip.
3. (Original) The assembly of claim 2 wherein the swirl ring is constructed of one of plastic and ceramic.
4. (Original) The assembly of claim 2 wherein the swirl ring is constructed of a non-conductive material.
5. (Original) The assembly of claim 1 further comprising a shield integrally connected to an end of the shield cup.
6. (Original) The assembly of claim 5 wherein the shield is constructed of one of copper and stainless steel.
7. (Original) The assembly of claim 5 wherein the shield includes one of a gouge shield, drag shield, machine shield, and deflector.
8. (Original) The assembly of claim 1 wherein at least one of the shield cup, the electrode, and tip is reconditionable.

9. (Original) The assembly of claim 1 wherein at least one of the shield cup, the electrode, and tip is replaceable.

10. (Original) The assembly of claim 1 configured to be snap-fittable to a torch body of a plasma cutter.

11. (Original) The assembly of claim 1 wherein the consumable assembly is constructed to be secured to a torch body by rotating one of the torch body and the consumable assembly relative to the other.

12. (Original) A plasma cutter comprising:
a power source configured to condition power into a form usable by a plasma cutting process;
a torch connected to the power source and configured to effectuate the plasma cutting process;
a one-piece consumable assembly comprising:
a cap;
a tip fixedly connected to the cap and constructed to snap-fit the consumable assembly to the torch;
an electrode electrically connectable to the power source and fixedly connected to the cap; and
wherein the one-piece consumable assembly is assembled prior to being connected to the torch.

13. (Original) The plasma cutter of claim 12, wherein the on-piece consumable assembly further comprises a swirl ring fixedly connected to the cap and positioned about the electrode.

14. (Original) The plasma cutter of claim 12, wherein the one-piece consumable assembly further comprises a shield fixedly connected to an end of the cap.

15. (Original) The plasma cutter of claim 14 wherein the shield includes one of a gouging shield and a drag shield.

16. (Original) The plasma cutter of claim 14 wherein the shield is snap-fittable to the cap.

17. (Original) A replacement plasma torch consumable kit comprising:
a shield cup;
an electrode;
a tip constructed to be attached to a torch; and
wherein at least two of the shield cup, electrode, and tip are press-fit to one another.

18. (Original) The kit of claim 17 wherein each of the shield cup, electrode, and tip are secured to one another to form a one-piece assembly.

19. (Original) The kit of claim 17 further comprising a shield, snap connected to the shield cup.

20. (Original) The kit of claim 17 wherein at least one of the electrode, tip, and shield cup is reconditionable.

21. (Original) The kit of claim 17 further comprising a swirl ring having an opening constructed to receive the electrode therein in a press-fit connection.

22. (Original) A method of manufacturing a plasma torch consumable assembly comprising the steps of:
providing an electrode;
providing a tip; and
integrally connecting the electrode within a perimeter of the tip in a single unitary consumable structure.

23. (Original) The method of claim 22 further comprising the steps of providing a shield cup and integrally forming the shield cup in the single unitary consumable structure.

24. (Original) The method of claim 23 further comprising the steps of providing a swirl ring and integrally forming the swirl ring in the single unitary structure.

25. (Original) The method of claim 24 further comprising press-fitting the electrode into the swirl ring and press-fitting the swirl ring into the tip.

26. (Original) The method of claim 22 wherein the step of integrally connecting includes the step of molding the electrode and tip in the single unitary structure with an electrical isolator therebetween.

27. (Original) The method of claim 26 wherein the step of integrally forming includes the step of casting the electrode and tip in the single unitary structure with an electrical isolator therebetween.